

PATENT APPLICATION  
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Benoit AMBROISE, *et al.*

Appln. No.: 09/734,101

Attorney Docket No.: 10244

Confirmation No.: 3915

Group Art Unit: 1771

Filed: December 11, 2000

Examiner: Hai VO

For: POROUS BIAXIALY ORIENTED HIGH DENSITY POLYETHYLENE FILM WITH  
HYDROPHILIC PROPERTIES

RESPONSE UNDER 37 C.F.R. § 1.111

Commissioner for Patents  
Washington, D.C. 20231

Sir:

Please consider the following remarks in response to the Office Action mailed July 2, 2002.

Claims 1-9 are all the claims pending in the application.

I. Paragraph No. 2: Rejection Under 35 U.S.C. § 103

Claims 1-9 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 5,455,217 to Chang, *et al.* ("Chang") in view of U.S. Patent No. 6,276,273 to Aurenty, *et al.* ("Aurenty") or U.S. Patent No. 3,877,372 to Leeds, *et al.* ("Leeds").

Applicants' Response

Applicants respectfully traverse.

The Examiner asserts that Chang discloses a biaxially oriented film that has a network of interconnected pores.

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The Examiner concedes that "Chang is silent as to the silicone glycol composition in the dye receiving layer."

Applicants agree that Chang does not disclose a silicone glycol composition as a candidate for its dye-receiving layer. In fact, Chang discloses a long list of "suitable resins for use as dye receiving materials" at column 11, lines 41-51, and not one of the candidates listed therein, or anywhere else in Chang, is a silicone glycol composition.

The Examiner appears to have taken the position that it would have been obvious to replace Chang's *entire* dye-receiving layer with the siliconated surfactant of Aurenty or the silicone glycol copolymer of Leeds.

In this regard, Applicants note that the Examiner has actually written that "it would have been obvious ... to modify *the surface of the dye receiving layer* with the siliconated surfactant ...." (Emphasis added by Applicants.)

Applicants, however, are claiming a biaxially oriented film that has a surface layer that comprises a porous high density polyethylene. The claimed porous HDPE surface layer has a coating thereon consisting essentially of a silicone glycol composition. The silicone glycol composition is impregnated in the pore space of the claimed porous HDPE surface layer.

The assertion that "it would have been obvious ... to modify *the surface of the dye receiving layer* with the siliconated surfactant" necessarily implies that Chang's dye-receiving layer would still be the layer in direct contact with Chang's HDPE, and as already mentioned, Chang does not disclose a silicone glycol composition as a candidate for its dye-receiving layer.

Therefore, *even if* "it would have been obvious ... to modify *the surface of the dye receiving layer* with the siliconated surfactant," a person of ordinary skill in the art would never arrive at the claimed invention.

Instead, Applicants assume that the Examiner intended to assert that it would have been obvious to replace Chang's *entire* dye-receiving layer with the siliconated surfactant of Aurenty or the silicone glycol copolymer of Leeds.

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Applicants respectfully disagree. For at least the following reasons, (i) it would not have been obvious for a person of ordinary skill in the art to replace Chang's dye-receiving layer with the siliconated surfactant of Aurenty or the silicone glycol copolymer of Leeds and (ii) the prior art, even if modified as proposed by the Examiner, does not lead the skilled artisan to each and every element of the presently claimed invention.

A proper analysis under §103 requires, *inter alia*, consideration of whether the prior art would have suggested to those of ordinary skill in the art that the prior art should be modified in order to arrive at the claimed invention. It is essential that the Examiner find some motivation or suggestion to make the claimed invention in light of the prior art teachings. The mere possibility that the prior art may be modified so as to arrive at the claimed invention does not render obvious the invention unless the prior art suggested the desirability of such a modification. Indeed, the suggestion to modify must be "clear and particular" (*see, In re Sang Su Lee*, 2002 U.S. App. LEXIS 855 (Fed. Cir. 2002); *Winner Int'l Royalty Corp. v. Ching-Rong Wang*, 53 USPQ2d 1580, 1586-1587 (Fed. Cir. 2000)).

In the present case, the prior art does not provide a clear and particular suggestion to arrive at the presently claimed invention. Instead, Chang specifically *teaches away* from a recited element of the claimed invention. It is well-settled, of course, that each prior art reference must be considered in its entirety, *i.e.* as a whole, and any portion therein that would teach away from the claimed invention is evidence of nonobviousness (*see, W.L. Gore & Assoc. v. Garlock, Inc.*, 220 USPQ 303 (Fed. Cir. 1983)).

In particular, claim 1 recites that the coating is impregnated into the pore space of the surface layer. In other words, the claimed invention is drawn to a film, the film has a porous surface layer, and the porous surface layer has a coating, not only on its surface, but impregnated in its pore spaces.

At column 3, lines 31-53 and again at column 13, lines 6-12, however, Chang discloses that the viscosity of the dye-receiving layer is such that it prevents the dye-receiving layer from filling the inner pores of the film.

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In fact, Chang discloses that "it is preferable that the dye receiving layer is coated on a thin film support first, and then the thin film base is laminated to the microporous insulating film" (*see*, column 3, lines 37-39). Thus, Chang actually suggests that its dye-receiving layer should not come into contact with the porous film at all, and certainly not be impregnated into the pore space of its film.

In short, it must be kept in mind that the mere possibility that the prior art may be modified so as to arrive at the claimed invention does not render obvious the invention unless the prior art suggested the desirability of such a modification. It is not possible for a person of ordinary skill in the art to modify Chang in order to arrive at the presently claimed invention, wherein a coating is impregnated in the pore space of a surface layer, without destroying the teaching of Chang, an outcome that is prohibited in attempting to establish a *prima facie* case of obviousness.<sup>1</sup>

*Even if* the Examiner is not persuaded by the foregoing, Applicants respectfully submit that both Aurenty and Leeds fail to disclose or suggest a coating *consisting essentially* of a silicone glycol composition. This point is explained in greater detail at section II of this response.

Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw this §103 rejection.

**II. Paragraph No. 3: Rejection Under 35 U.S.C. § 103**

Claims 1-9 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 5,468,712 to Minato, *et al.* ("Minato") in view of Aurenty or Leeds.

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<sup>1</sup> If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious (*see, In re Ratti*, 123 USPQ 349 (CCPA 1959)).

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Applicants' Response

Applicants respectfully traverse.

Minato discloses a porous biaxially oriented thermoplastic film that has a dye image-receiving layer formed on a front surface thereof.

The Examiner concedes that "Minato is silent as to the silicone glycol composition in the dye receiving layer."

Applicants agree that Minato does not disclose a silicone glycol composition as a candidate for its dye image-receiving layer. In fact, Minato discloses that its dye image-receiving layer comprises a dye-receiving synthetic resin comprising a member selected from polyester resins, polycarbonate resins, polyvinyl chloride resins, and other durable synthetic resins (*see*, column 6, lines 15-31).

The Examiner appears to have taken the position that it would have been obvious to replace Minato's *entire* dye image-receiving layer with the siliconated surfactant of Aurenty or the silicone glycol copolymer of Leeds.

As with Chang, the Examiner has actually written that "it would have been obvious ... to modify *the surface of the dye receiving layer* with the siliconated surfactant ...." (Emphasis added by Applicants.). Similar to the discussion above in section I of this response with respect to Chang, the assertion that "it would have been obvious ... to modify *the surface of the dye receiving layer* with the siliconated surfactant" necessarily implies that Minato's dye image-receiving layer would still be the layer in direct contact with Minato's porous biaxially oriented thermoplastic film. Therefore, a person of ordinary skill in the art that modifies only the surface of Minato's dye image-receiving layer cannot arrive at the claimed invention because Minato does not disclose a dye image-receiving layer consisting essentially of a silicone glycol composition.

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Applicants therefore assume that the Examiner intended to assert that it would have been obvious to replace Minato's *entire* dye image-receiving layer with the siliconated surfactant of Aurenty or the silicone glycol copolymer of Leeds.

Applicants respectfully disagree. For at least the following reasons, (i) it would not have been obvious for a person of ordinary skill in the art to replace Minato's dye image-receiving layer with the siliconated surfactant of Aurenty or the silicone glycol copolymer of Leeds and (ii) the prior art, even if modified as proposed by the Examiner, does not lead the skilled artisan to each and every element of the presently claimed invention.

A proper analysis under §103 requires, *inter alia*, consideration of whether the prior art would have suggested to those of ordinary skill in the art that the prior art should be modified in order to arrive at the claimed invention. It is essential that the Examiner find some motivation or suggestion to make the claimed invention in light of the prior art teachings. The mere possibility that the prior art may be modified so as to arrive at the claimed invention does not render obvious the invention unless the prior art suggested the desirability of such a modification. Indeed, the suggestion to modify must be "clear and particular" (*see, In re Sang Su Lee*, 2002 U.S. App. LEXIS 855 (Fed. Cir. 2002); *Winner Int'l Royalty Corp. v. Ching-Rong Wang*, 53 USPQ2d 1580, 1586-1587 (Fed. Cir. 2000)).

In particular, Applicants kindly draw the Examiner's attention to the fact that (i) the mere possibility that the prior art may be modified so as to arrive at the claimed invention does not render obvious the invention *unless the prior art suggested the desirability of such a modification* and (ii) the suggestion to modify must be "clear and particular."

The prior art does not suggest the desirability of combining elements from Minato's disclosure with elements from Aurenty's disclosure.

Minato relates to *thermal transfer* printing. Minato's biaxially oriented porous thermoplastic film has a *dye image-receiving layer* formed thereon, and the dye image-receiving layer comprises a *dye-receiving resin material*, as already discussed.

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On the other hand, Aurenty relates to the art of *lithographic* printing, and, more specifically, to lithographic printing plates. According to Aurenty, a printing plate substrate, which is typically aluminum (a fact that is evidenced by Aurenty's examples (*see*, column 6, lines 65+, for instance)), is treated with a surfactant. The surfactant-treated printing plate substrate then has an *ink-receptive composition* image-wise applied to the substrate, *e.g.*, applied as a fluid composition by means of an ink-jet printer (*see*, column 4, lines 44-65). Aurenty's ink-receptive composition includes solutions of resins in water and organic solvents and energy-curable formulations, and Aurenty is silent with respect to an ink-receptive composition consisting essentially of a silicone glycol composition. According to Aurenty, surfactant is then *removed* from any area of the substrate that did not have an *ink-receptive composition* applied thereto.

Thus, Aurenty never discloses contacting its surfactant with a dye or ink in order to form an image. In fact, Aurenty discloses removing the surfactant from areas of the printing plate substrate that, due to the nature of lithographic printing, are to eventually come into contact with a dye or ink to form an image. A person of ordinary skill in the art would not be motivated to replace Minato's dye image-receiving layer, which is a part of a *thermal transfer* sheet and comes into contact with a dye in order to form an image, with Aurenty's surfactant, which is a part of a *lithographic* printing plate, comes into contact with an *ink-receptive composition*, and is not, according to Aurenty, to come into contact with a dye or ink in order to form an image.

The Leeds reference also relates to a printing plate, and, specifically, a printing plate for lithographic offset or planographic printing.

The prior art also fails to provide a clear and particular suggestion to employ a coating *consisting essentially of* a silicone glycol composition.

According to Minato, the dye image-receiving layer optionally contains a resin crosslinking agent, lubricant, releasing agent and/or pigment, fluorescent brightening agent, blue or violet dye, ultraviolet ray-absorbing agent and/or antioxidant. Minato's exemplified coating

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compositions, *i.e.*, coating resin compositions 1 and 2 in the tables at columns 8 and 9, each contain a plurality of components, including polyester and silicone resins.

Aurenty's ink-receptive composition includes solutions of resins in water and organic solvents and energy-curable formulations, and Aurenty is silent with respect to an ink-receptive composition consisting essentially of a silicone glycol composition (*see*, column 4, lines 49-55).

Leeds specifically teaches a chemical system constituted of (1) ethylene glycol monobutyl ether, (2) at least one of hexylene glycol and ethylene glycol, (3) a silicone-glycol copolymer, and (4) a defoamer (*see*, column 1, lines 60-65).

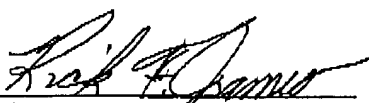
It is completely unexpected from Minato, Aurenty and Leeds, that the coating material used to treat a porous HDPE film should be essentially free of materials other than silicone glycol, such as binders (especially PVOH), in forms and amounts which substantially hinder the ability of the silicone glycol coating to promote drying of ink applied to the coated film (*see*, page 20, lines 6-10 of the specification).

For the foregoing reasons, Applicants respectfully request that the Examiner reconsider and withdraw this §103 rejection.

**III. Conclusion**

Reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,

  
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